Velocity Conversions in DLL file

1 Introduction:

The conversion DLL file of unit Velocity is written in C/C++ programming language style, and do not require any extra code in using this DLL file. This DLL file includes 2 functions to handle the Velocity conversions as follow:

```
double LP_UnitConversionsVelocity_GetLeftValue (char* LeftUnit, char* RightUnit, double RightValue)  ;
double LP_UnitConversionsVelocity_GetRightValue(char* LeftUnit, char* RightUnit, double LeftValue )  ;
```

In Visual Basis, you can identify these functions with the code:

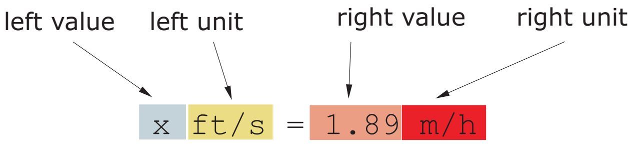
```
Declare Function LP_UnitConversionsVelocity_GetLeftValue Lib "LP_UnitConversionsVelocity.dll" _
(ByVal LeftUnit As String, ByVal RightUnit As String, ByVal RightValue As Double) As Double

Declare Function LP_UnitConversionsVelocity_GetRightValue Lib "LP_UnitConversionsVelocity.dll" _
(ByVal LeftUnit As String, ByVal RightUnit As String, ByVal RightValue As Double) As Double
```

2 Problems in Velocity conversion

The two functions in DLL file are used to handle all Velocity conversions in two problems.

Problem 1 The unknown value is on the **left hand side** of equation

This problem in conversion is described in the figure:



The value x is obtained by either one of two methods:

- Method A : The code is :

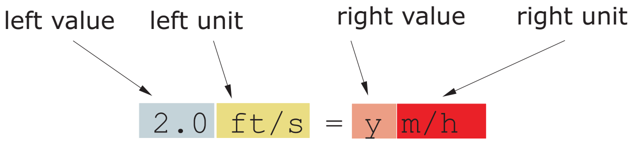
```
Dim x As Double
x = LP_UnitConversionsVelocity_GetLeftValue("FootPerSecond", "MeterPerHour", 1.89)
```

- Method B : The code is :

```
Dim LeftUnit, RightUnit As String
LeftUnit = "FootPerSecond"
RightUnit = "MeterPerHour"

Dim RightValue As Double
RightValue = 1.89

Dim x As Double
x = LP_UnitConversionsVelocity_GetLeftValue(LeftUnit, RightUnit, RightValue)
```

<u>Problem 2</u> The unknown value is on the **right hand side** of equation

This problem in conversions is described in the figure:



The value y is obtained by either one of two methods:

- Method A : The code is :

```
Dim y As Double
y = LP_UnitConversionsVelocity_GetRightValue("FootPerSecond", "MeterPerHour", 2.0)
```

- Method B : The code is :

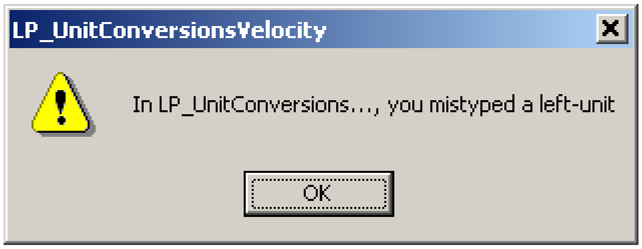
```
Dim LeftUnit, RightUnit As String
LeftUnit = "FootPerSecond"
RightUnit = "MeterPerHour"

Dim LeftValue As Double
LeftValue = 2.0

Dim y As Double
y = LP_UnitConversionsVelocity_GetRightValue(LeftUnit, RightUnit, LeftValue)
```

3 Unit names in Velocity conversions

You can choose the unit name (case sensitive) in the following table for parameters, LeftUnit and/or RightUnit

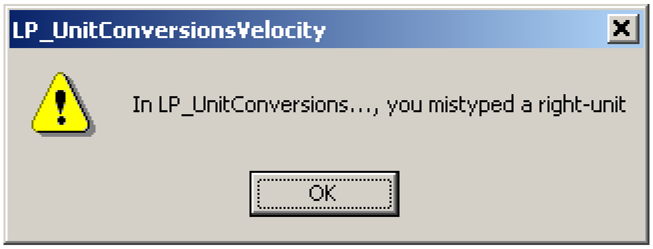
MillimeterPerSecond	InchPerSecond
MillimeterPerMinute	InchPerMinute
MillimeterPerHour	InchPerHour
CentimeterPerSecond	FootPerSecond
CentimeterPerMinute	FootPerMinute
CentimeterPerHour	FootPerHour
MeterPerSecond	FootPerDay
MeterPerMinute	YardPerSecond
MeterPerHour	YardPerMinute
MeterPerDay	YardPerHour
KilometerPerSecond	MilePerSecond
KilometerPerMinute	MilePerMinute
KilometerPerHour	MilePerHour
KilometerPerDay	MilePerDay

When your unit name is not in this table, the returns of functions are −1 and the error message will issue as shown in the following figures:



In LP_UnitConversions..., you mistyped a left-unit

or



In LP_UnitConversions..., you mistyped a right-unit

4 Tip

1. The parameters in two functions have the same order of unit name (LeftUnit is first and RightUnit is second) and the last parameter is the known value.

2. Use function LP_UnitConversionsVelocity_GetLeftValue(..) if your **unknown** value is on the **left hand side** of the equation.

3. Use function LP_UnitConversionsVelocity_GetRightValue(..) if your **unknown** value is on the **right hand side** of the equation.